ACT/037/001A

PROPOSAL - SURFACE CAPPING OF SHAFTS

5-21-80

Vent Shaft

Install reinforced concrete pad supported by 12" WF 31 steel beams. Include 6" capped pipe inspection window. Grade with well compacted fill.

Cost

Concrete - 7½ yds. @ 60.00 yd.	$ 450.00
Reinforcing - 457 lbs. #4 bar @ .30¢ lb.	137.10
12" WF 31 Steel Beams, 2232 lbs. @ .30¢	669.60
Labor, 4 men, 16 hours @ 10.00 hr.	640.00
Grading, 10 hrs. Bulldozer @ 80.00 hr.	800.00
TOTAL	$2,696.70

Production Shaft

Install reinforced concrete pad supported by 12" I 31 beams. Include 6" capped pipe for inspection window. Pad to be installed at line of sub-collar.

Fill to level of main collar with spoil and grade with well compacted fill.

Cost

Concrete - 16 yds. @ 60.00 yd.	$ 960.00
Reinforcing - 692 lbs. @ .30¢ lb.	207.60
12" I 31 Steel Beams, 6200 lbs. @ .30¢	1,860.00
Labor, 4 men, 32 hours @ 10.00 hr.	1,280.00
Site Grading, 30 hrs. Bulldozer @ 80.00 hr.	2,400.00
600 yds. fill @ 3.00 yd.	1,800.00
TOTAL	$8,507.60
TOTAL 2 SHAFTS	$11,204.30
10 yrs. @ 13%	26,829.60
TOTAL ESCROW	$38,033.90

ACT/037/001

Route to Tom - more Hydrologic info is being routed to you and he so that a decision can be reached. Pa

NOTES ON NEED FOR SUBSURFACE PLUGS

IN THE LISBON SHAFTS

I feel that it is unnecessary to place subsurface plugs in either of the shafts as part of the mine reclamation plan at Lisbon Mine.

The Lisbon Mine is serviced by two, 18' diameter, vertical shafts from surface to the haulage level, 2,500 feet below. The haulage level is the only opening to these shafts below surface. At no place, do the ore workings enter the shaft.

Each shaft is lined with a nominal 12 inch thick, poured concrete wall. When the shaft passed through known water bearing strata, the wall thickness was increased to 18 inches and 24 inches. The shafts are, therefore, the equivalent of cased holes, with sealing between the casing and the hole wall.

The haulage level connects both shafts at the 2,500 foot depth running through the Cutler formation approximately 90 feet below the ore bearing Mossback-Chinle member. Access to the ore horizon is made via inclined and vertical headings driven in waste.

Water enters the mine to the haulage level from various breccia pipes and faults within the mine. These faults and pipes intersect both the ore horizon and the aquifers and have for millions of years. The water is collected in sumps and impounded behind dams prior to pumping to surface. Approximately 800 gallons per minute is pumped to surface. Assays of uranium content of this water show 0.59 parts per million, which is well below N.P.D.E.S. maximum of 2.0 ppm.

When mining ceases and the pumps are removed, water will fill the shaft bottoms, spread onto the haulage level and build up behind containment dams, eventually rising into the ore workings, until such time as that space is filled or to the point where the air compressed by the rising water will prevent the water from entering the ore horizon. It will then rise in the shafts until the general water table elevation is reached, and then it will stabilize. No water will exit the shaft to any of the formations because of the concrete lining of the shafts and no pressure differential. There will be no migration of uranium up the shafts, but if there were, it would be contained within the cased shaft.

Depends on the elevation of the static water level. are the water bearing zones under artesian pressure? PS

An operation in Canada, at the Stanleigh Mine, has been de-watering a 3,000 foot shaft. Water is being pumped out at 900 gallons per minute since last September. The uranium value in this water which has been in a mine flooded for almost 20 years, still only shows a value of uranium of .7 parts per million, well below environmental regulatory levels. This pumping is actually pulling water out of the ore workings.

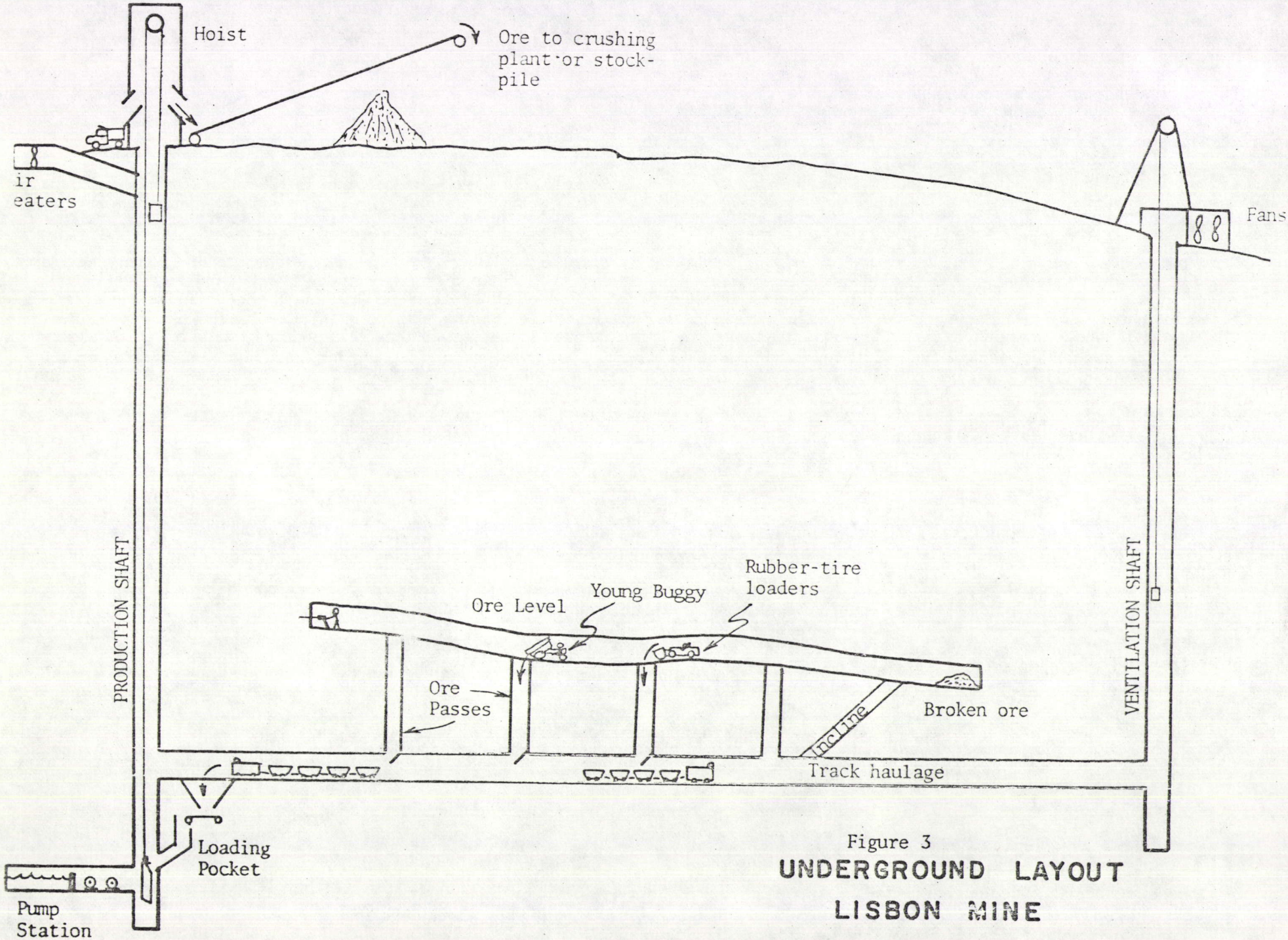

Figure 3

UNDERGROUND LAYOUT

LISBON MINE

RIO ALGOM CORP.

MOAB, UTAH